

Remarks

The Objections to the Drawings:

The Examiner rejected the drawings for failing to show every feature of the invention specified in the claims under 37 CFR 1.83(a). Specifically, Claim 5 sets forth the feature of a stepping motor with step counter, and/or a servomotor but the drawings fail to show such a feature. Applicants have amended Claim 5 by eliminating that feature thereby eliminating the need to include such a feature in the drawings. Accordingly, withdrawal of the objection to the drawings is appropriate and respectfully requested.

Furthermore, the Examiner objected to the drawings because they included a reference character not mentioned in the description. The description has been amended to include the reference number 13 in the paragraphs 0028 and 0030 after the desired spacing. This amendment has added no new matter. Accordingly, withdrawal of the objection to the drawings is appropriate and respectfully requested.

The 35 USC §112 Rejections of Claims 1-8

The Examiner rejected Claims 1-8 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claims 2 and 3 have been cancelled rendering the rejection of Claims 2 and 3 moot. Claims 1 and 4-8 have been amended as indicated above and the respective amendments have addressed the rejections from the Examiner. Accordingly, withdrawal of the rejections of Claims 1 and 4-8 under 35 USC §112, second paragraph is appropriate and respectfully requested.

The § 102 (b) Rejections of Claims 1, 6, 8 and 10

The Examiner rejected Claims 1, 6, 8 and 10 under 35 U.S.C. § 102 (b) as anticipated by U.S. Patent No. 5,533,342 to Gordon ("Gordon" or "the Gordon patent"). Applicants have withdrawn Claim 10 which renders the rejection of that claim moot. Applicants have amended Claim 1, the only remaining independent claim, by adding additional limitations that place that

claim, and all claims dependent therefrom, in condition for allowance. Applicants respectfully traverse the rejection of amended Claims 1, 6 and 8, and requests reconsideration.

“A claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described in a single prior art reference.” *Vandergaal Bros. v. Union Oil of California*, 814 F.2d 628, 631; 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). MPEP § 2131. (Emphasis added.) Claim 1 has been amended to now include a distance measurement system during the movement of the trimming knife or the milling cutter as the spacing between the trimmed surface of the specimen and the specimen holder is ascertained in the trimming apparatus. Applicants courteously point out that Gordon does not disclose any type of distance measurement system. Applicants’ invention also has a specific component in Claim 1 that is named a trimming apparatus. The Examiner’s interpretation of the Gordon patent defines the freezing section as a trimming apparatus since it resides within a cutting apparatus. Extrapolating this logic would enable one to define any component within the cutting apparatus as a trimming apparatus. Moreover, the freezing section is actually the freezing station and it a component dedicated to freezing samples, and has no apparatus capable of cutting or trimming. The Examiner’s assertion that the freezing station is defined as a trimming apparatus is a generalization that is an inaccurate portrayal of the Gordon patent specification (See Col. 5 lines 27-32). The trimming apparatus in Claim 1 is an actual component capable of trimming or cutting a specimen (as indicated in Figure 1 and paragraph 0024), which is not true of the “trimming apparatus” as it has been designated in the Gordon patent by the Examiner. Also missing from the Gordon patent is any mention that the distance is measured during the movement of the trimming knife or milling cutter.

The Examiner also interprets the thickness t of the specimen, as defined in the Gordon patent, as the distance between the specimen holder and the trimmed surface of the specimen. This is an incorrect recitation of what the Gordon patent discloses. In Gordon, the thickness t can be determined from the relationship $t = Z_2 - Z_{(\text{actual})}$ (See Col. 5&6), where Z_2 is the distance the freezing station is from the datum plane, which is defined by the Y-guide elements (See Col. 5&6). $Z_{(\text{actual})}$ is defined (and measured) as the distance that Z table 70 is advanced toward

freezing plane 32 until freezing stalls the Z drive (Col. 6 lines 1-15). Thus in Gordon, the thickness t is not defined by the distance between the specimen holder and the trimmed surface of the specimen, but the distance between the freezing station and a predetermined distance less the distance the Z table advances toward the freezing plane (until freezing stalls its advance) (Col. 5&6).

The Examiner also indicates that the spacing data is transferred to a “cutting device” 20 in the Gordon patent. In Column 5 and Figure 1 of Gordon, it is clear that element 20 is not a cutting device as the term is used by Applicants in Claim 1. Applicants use the term to refer to the apparatus in total, not to a single element that is a component of the apparatus. Element 20 in the Gordon patent is a knife not the device in total. Furthermore, Applicants contest the Examiner’s unsupported statement that the Gordon patent teaches the step of transferring data to the cutting device. There is no section in the Gordon patent that teaches this step of Claim 1. Therefore, this is further support that Claim 1 of the present application is not anticipated by the Gordon patent.

Not only does the Gordon patent fail to teach the steps and elements of Claim 1 indicated above, but it also fails to teach a method for automatically presetting and cutting a specimen with a microtome or ultramicrotome that uses a distance measuring system. The additional element of a distance measurement system found in Claim 1 of the present invention is a significant advancement over previous methods. This distance measurement system is dedicated to sensing the distance traveled by the trimming knife, i.e., determining the spacing between trimmed surface 15 (or milling cutter 17) and specimen holder 22. There is no such step or element taught by the Gordon patent.

Therefore, because the Gordon patent fails to disclose each limitation of amended Claim 1, it fails to anticipate amended Claim 1 under § 102 (b). For this reason, Applicants respectfully requests reconsideration and passage to allowance of amended Claim 1.

Claims 4-8 depend from Claim 1 and thus incorporates all the limitations of that claim. Because, as discussed above, the Gordon patent fails to anticipate all the elements of amended

Claim 1, it also fails to anticipate Claims 4-8. Applicants respectfully request the removal of the rejections of Claims 4-8 and passage to allowance of those claims.

The § 103 (a) Rejections of Claims 1-3 and 5

The Examiner rejected Claims 1-3 and 5 under 35 U.S.C. § 103 (a) as obvious over U.S. Patent No. 4,426,179 to Jefferson ("Jefferson" or "the Jefferson patent"). Applicants have cancelled Claims 2 and 3 thereby rendering the rejection of those claims moot. Applicants respectfully traverse the rejection of Claims 1 and 5 and respectfully request reconsideration.

To establish a *prima facie* case of obviousness the reference(s) must teach or suggest all limitations of the claim at issue and there must be some suggestion or motivation to modify the reference(s). The teaching or suggestion to make the combination must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants have amended independent Claim 1 to include the limitation of "providing a microtome or ultramicrotome with a knife holder" (Emphasis added.) Applicants respectfully note that nothing disclosed in the Jefferson patent teaches a method of cutting a specimen with a microtome or ultramicrotome as disclosed in the instant application and claimed in amended Claim 1. Neither does the Jefferson patent describe a microtome or ultramicrotome with a distance measuring system that ascertains the distance between the trimmed surface of the specimen and the specimen holder. Applicants point to Column 4 and Figures 3 and 4 of the Jefferson patent in which detector plate 90 is described as a contact sensor/calibration detector plate that indicates when guide 26 and cutting wheel 18 are in alignment. Electrical current following through a circuit connected to two separate plates 90 and guide 26 are connected to lamps that enable a key cutter to be calibrated. Surface 94b is a portion of the detector plate that is not trimmed, as the Examiner has so indicated, but it is the surface of detector plate 90 that remains intact as guide 26 comes in contact with 94b. Applicants courteously note that the distance between detector plate surface 94b and vise 38 is not measured by detector plate 90 and vise 38 nor is there any suggestion in the Jefferson patent for any type of determining the spacing between a trimmed surface of a specimen and a specimen holder during the movement of a

trimming knife or a milling center. In support, Applicants point to Figure 4 and Columns 4-5 that show the detector plate as a sensor that detects contact between guide 26, cutting wheel 18, and detector plate 90 only to coordinate and calibrate the contact of guide 26 and cutting wheel 18. Furthermore, there is no distance measuring system taught or suggested by the Jefferson reference.

Moreover, as described in the specification, the insert of amended Claim 1 provides a clear advantage over the lack of a distance measuring system in the Jefferson patent. As described in paragraph 0019 of the instant application, that as the trimming knife moves towards the specimen the distance between the trimming knife and the specimen is sensed with the aid of a distance measurement system. From the difference between the distance traveled and the known distance between the zero position of the trimming knife and the specimen holder, it is possible to ascertain the spacing between the cut surface of the specimen and the specimen holder. Thus, the distance measuring system in the present invention is not analogous to features described by the Jefferson patent. Additionally, Jefferson does not disclose or suggest the use of any type of distance measuring system or a trimming apparatus for determining the distance between a specimen and a specimen holder. Consequently, because the Jefferson patent fails to disclose a distance measuring system or a trimming apparatus that measures the distance between a trimmed surface and a specimen holder, the Examiner has failed to establish a *prima facie* case of obvious against amended Claim 1. Applicants respectfully request reconsideration and passage to allowance of amended independent Claim 1.

"If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Claim 5 depends directly or indirectly from Claim 1 and thus incorporates all the limitations of that claim. Because, as discussed above, the Jefferson patent fails to establish a *prima facie* case of obviousness against amended Claim 1, it also fail to support a *prima facie* case of obviousness against Claim 5. Applicants respectfully request the removal of the rejections of Claim 5 and passage to allowance of that claim as well.

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Conclusion

Applicants respectfully submit that the present application is now in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned attorney of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully yours,



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